

February 25, 2021

Ms. Maribeth Greenslade
Associate Environmental Engineer
Arizona Department of Environmental Quality
Groundwater Protection
1110 West Washington Street
Phoenix, Arizona 85007

**Subject: Transmittal of Application for Other Amendment of Aquifer Protection
Permit P-101704 to Clarify the Applicability of the Fluid Electrical
Conductivity Alert Level**

Dear Ms. Greenslade:

Transmitted herewith is an Application for Other Amendment of Aquifer Protection Permit (APP) No. P-101704 (Permit) to clarify the applicability of the fluid electrical conductivity alert level.

Florence Copper Inc. requests that the Permit be revised to clarify that the fluid electrical conductivity (EC) monitoring alert level (AL), currently included in APP No. P-101704, applies only to active leaching phase operations, and not to rinsing operations. Rinsing activities consist of a three-phase demonstration that includes flushing, pH adjustment, and fixation of residual mineral constituents. During the flushing phase, no acid will be added to the raffinate stream, thereby significantly decreasing the injectate fluid EC. This will be followed by injection of freshwater or treated water which will further reduce the fluid EC of the injected fluid. There will be a lag in the subsequent decline in fluid EC at the observation wells due to the hydraulic conductivity of the formation and mineral scaling present in the observation wells. Given these conditions, it is evident that fluid EC measurements at the observation wells will become equal to or greater than injection well fluid EC as fresh water or treated water is injected in the wellfield to advance the rinsing process. Such conditions would trigger an exceedance of the fluid EC AL as defined in Section 4.2, Table 15 under the Permit. Monitoring of the fluid EC measurements in the injection and observation wells is intended to demonstrate hydraulic control. During rinsing however, comparison of fluid EC measurements in injection and observation wells is not an effective means of doing so and produces a significant potential for false positive reporting of this monitoring element.

The accompanying amendment application proposes the addition of a footnote to specify that the fluid EC AL applies only to measurements collected during active leaching operations. No other changes are proposed to APP No. P-101704 in this amendment application.

Please contact me at 520-316-3710 if you require any additional information.

Sincerely,
Florence Copper Inc.

A handwritten signature in blue ink, appearing to read 'Brent Berg', with a long horizontal flourish extending to the right.

Brent Berg
General Manager

Enclosure:
Application to Amend Aquifer Protection Permit No. P-101704, Florence Copper Project,
Amendment Description

GENERAL INFORMATION

1. Application to obtain [A.R.S. 49-241]:

New APP Other Amendment

Amendment to a current APP Inventory N P-101704 LTF No.76820

Description of all amendment requests and justification included in Report Section/Appendix 1

A copy of the current permit, annotated with any inconsistencies between the permit requirements and the existing facilities or operation, included in Report Section/Appendix N/A

NOTE: ADEQ can provide the permit in WORD file format upon request.

2. Applicant/Permittee Name [A.A.C. R18-1-503(1)] (see Definitions):

Company/Government/Entity Name: (RESPONSIBLE FOR ALL PERMIT CONDITIONS)

Florence Copper Inc.

3. Applicant/Permittee - Certification Statement [A.A.C. R18-9-A201(B)(7)]:

I certify under penalty of law that this Aquifer Protection Permit application and all attachments were prepared under my direction or authorization and all information is, to the best of my knowledge, true, accurate and complete. I also certify that the APP discharging facilities described in this form is or will be designed, constructed, operated, and/or closed in accordance with the terms and conditions the Aquifer Protection Permit and applicable requirements of Arizona Revised Statutes Title 49, Chapter 2, and Arizona Administrative Code Title 18, Chapter 9 regarding aquifer protection permits. I am aware that there are significant penalties for submitting false information, including permit revocation as wells as the possibility of fine and imprisonment for knowing violations.

Authorized person signature:

Name: Brent Berg

Title: General Manager

Signature [Handwritten Signature]

Date: 2/25/2021

4. Applicant/Permittee Address

Mailing Address: 1575 W Hunt Highway, Florence, Arizona, 85132

Billing Address: 1575 W Hunt Highway, Florence, Arizona, 85132

Email Address: BrentBerg@florencecopper.com

Phone Number: (520) 316-3710

5. Authorized Agent [A.A.C. R18-1-503(3)] (Optional, see Definitions):

Name: N/A
Firm Name N/A
Mailing Address: N/A
Email Address: N/A
Phone Number: N/A

6. Facility Information [A.A.C. R18-1-503(2), A.A.C. R18-9-201(B)(1)]

Name: Florence Copper Inc.
Address: 1575 W Hunt Highway, Florence, Arizona, 85132
County: Pinal County
Latitude: 33 ° 03 ' 00 " Longitude: 111 ° 25 ' 00 "
Coordinate System used for Latitude and Longitude: ☐ NAD27 ☒ NAD83
Township 4S Range 9E Section: 26, 27, 28, 33, 34, and 35
Driving directions from a major intersection: 2 miles west of the intersection of Hwy 79 and W Hunt Hwy

7. Facility Notices of Violation, Consent Orders or Compliance Orders in the last 2 years [A.A.C. R18-9-A202(A)(11), included in Report Section/Appendix N/A

8. Facility Owner

Company/Government/Entity Name: Florence Copper Inc.
Contact Person Name Brent Berg, General Manager
Mailing Address: 1575 W Hunt Highway, Florence, Arizona, 85132
Email Address: BrentBerg@florencecopper.com
Phone Number: (520) 316-3710

9. Contact Person for Facility Emergencies [A.A.C. R18-9-A202(A)(11)]

Name: Brent Berg Title: General Manager
Mailing Address: 1575 W Hunt Highway, Florence, Arizona, 85132
Email Address: BrentBerg@florencecopper.com
Phone Numbers landline: (520) 316-3710 mobile phone:

10. Contact Person(s) for Permit Compliance Schedule Items Notifications (Optional)

ADEQ has developed a tool to track compliance schedule items (CSIs) 30 and 5 days before they are due, and 5 days after they become overdue. The person(s) identified, will receive email notifications in addition to the Applicant/Permittee.

Name(s): Brent Berg

Email Address(es): BrentBerg@florencecopper.com

11. Landowner

Company/Government/Entity Name: Florence Copper Inc./Arizona State Land Department

Contact Person Name Brent Berg

Mailing Address: 1575 W Hunt Highway, Florence, Arizona, 85132

Email Address: BrentBerg@florencecopper.com

Phone Number: (520) 316-3710

160 acres of the facility is located on land owned by the State of Arizona and is leased to Florence Copper under Mineral Lease (No. 11-026500), which identifies Florence Copper as the lessee, and is included in as Exhibit 1-1.

12. Expected operational life of the Facility [A.A.C. R18-9-A201(B)(1)]

(Start Date) January 2021 (Close Date) January 2046

13. Facility discharge or influent per day in gallons [A.A.C. R18-14-104, A.R.S. 49-242]: 18,216,000(gallons)

14. All other federal or state environmental permits issued to the Applicant for the Facility or site, including type and identification number [A.A.C. R18-9-A201(B)(1)], included in Report Section/Appendix 1

15. Are you required to file a certificate of disclosure according to A.R.S. §49-109?

☐ Yes, attached in Report Section/Appendix _____

☒ No, not required

16. Evidence that the facility complies with applicable municipal or county zoning ordinances, codes and regulations [A.A.C. R18-9-A201(B)(3)], included in Report Section/Appendix N/A

17. Evidence of technical capability to carry out the terms of the permit (design, construction, and operation) including licenses, certifications, training, and work experience [A.A.C. R18-9-A202(B)] Attached in Report Section/Appendix N/A

Cost Estimates and Financial Assurance Demonstration [A.A.C. R18-9-A201(B)(5) and R18-9-A203]

Is this application for:

- 1) A new permit? YES ☐ NO ☒
2) Significant Amendment? YES ☐ NO ☒

NOTE: Updated cost estimates may be required for a significant amendment as defined by rule if required to address incremental changes in the cost estimate that result from the significant amendment, A.R.S. § 49-243(N)(2)(b).

- 3) Other Amendment for permit transfer? YES ☐ NO ☒
4) Cost Estimate/Financial Demonstration update? YES ☐ NO ☒
5) Estimate/Financial Demonstration at the direction of ADEQ? YES ☐ NO ☒
6) A permit that has not been amended in the last five years? YES ☐ NO ☒

If you answered “YES” to ANY of the above questions, provide updated cost estimates and a financial assurance demonstration. If you answered “NO” to ALL of the above questions, skip this section and continue to the “Technical Information” Section.

18. Cost Estimates provided in Report Section/Appendix N/A

Closure costs and a financial demonstration are required even if the Applicant does not intend to close the facility in the near future. The closure and post-closure cost estimates must be based on the closure and post-closure plan/strategy (required by Application Item 32, below). Please see checklists for closure plans/strategies and cost estimate on the ADEQ website: <http://www.azdeq.gov/node/542>

NOTE: Cost estimates must be derived by an engineer, controller or accountant. Except as exempted by A.R.S. § 32-144.A.7 (employees of mining companies), professional documents, such as reports, plans and specifications, are to be signed by an Arizona registered engineer or geologist (A.R.S. § 32-125). Cost estimates prepared by an engineer, design documents and engineering analysis must be signed and sealed by an Arizona Registered Professional Engineer, and must not include labels such as “Draft”, “Preliminary”, or “Not for Construction” per A.R.S. § 32-101(B)(10 and 11) and 32-125.

Provide the cost estimates in the spaces provided below and attach supporting documentation for the cost estimates.

- | | | |
|-----------------|----|------------|
| a. Construction | \$ | <u>N/A</u> |
| b. Operation | \$ | <u>N/A</u> |
| c. Maintenance | \$ | <u>N/A</u> |
| d. Closure | \$ | <u>N/A</u> |
| e. Post-Closure | \$ | <u>N/A</u> |

19. Financial Assurance Demonstration for either (a) non-government or (b) government:

Indicate which financial assurance demonstration will be provided to cover the cost of Closure and Post-closure. It is preferable to wait for ADEQ to review and approve the cost estimates prior to submitting the finalized financial demonstration required by Item 19; simply indicating the type of demonstration is adequate for submittal of the application. Please see the ADEQ website for financial assurance mechanism templates and instructions at <http://azdeq.gov/financial-responsibility-options-apps>

Provide information based on whether the Applicant/Permittee is a non-government or government entity:

- a. A non-government entity:
 - i. Financial Assurance Mechanism selected N/A
 - ii. Details of any financial mechanism held by another government agency for the purpose of closure and post-closure activities described in the closure plan/strategy, provided in Report Section/Appendix N/A
 - iii. A letter on Company letterhead signed by the Chief Financial Officer, as required by A.A.C. R18-9-A203, is attached in Report Section/Appendix N/A
- b. A government entity:
 - i. A statement that indicates how the entity is capable of meeting the costs listed in the Cost Estimate section above is included in Report Section/Appendix N/A

APPLICATION TECHNICAL INFORMATION

20. Facility description, including the following information, is provided

in Report Section/Appendix N/A

- a. A general description of what the facility does.
- b. When operations began or are estimated to begin.
- c. A general description of the facility process as it relates to the discharge, including:
 - i. Operating, proposed and closed discharging facilities, or activities that discharge,
 - ii. source(s) of wastewaters/waste, and
 - iii. facility or location where the wastewater/waste is discharged.

NOTE: see the Definitions section for “discharging facility” and “discharge”

21. Process flow diagram that shows the activity producing the discharge (e.g. wastewater treatment, cooling, manufacturing), including the pertinent elements that affect the quality of the discharge, is included as Report Section/Appendix N/A

22. List the discharging facilities and activities that discharge in the table below. Indicate whether they are currently operating/existing, are proposed as new, or are to be closed as part of this permit application, and provide their location [A.R.S. 49-241]. Additional facilities listed in Report Section/Appendix N/A

DISCHARGING FACILITIES		
Facility	Latitude	Longitude
Production Test Facility (PTF) Well Field	33° 3' 1.39" N	111° 26' 4.69" W
PTF Process Water Impoundment	33° 3' 8.67" N	111° 25' 22.18" W
PTF Runoff Pond	33° 3' 4.89" N	111° 25' 22.6" W
BHP Copper Well Field	33° 02' 56" N	111° 25' 52" W
BHP Copper Evaporation Pond	33° 02' 45" N	111° 25' 27" W
In-Situ Copper Recovery (ISCR) Area	33° 02' 56" N	111° 25' 52" W
PLS Pond	33° 03' 04" N	111° 24' 60" W
Raffinate Pond	33° 03' 04" N	111° 24' 55" W
Runoff Pond	33° 03' 04" N	111° 24' 50" W
Water Impoundment 1	33° 02' 50" N	111° 24' 55" W
Water Impoundment 2		
Water Impoundment 3		
Water Impoundment 4		
Water Impoundment 5		

23. Map(s) [A.A.C. R18-9-A202(A)(1)], included in Report Section/Appendix N/A

Include the following:

- 1) North arrow
- 2) Scale
- 3) Topography with sufficient resolution and legible elevations of contours for the facility
- 4) Facility location
- 5) Property line(s) and use of adjacent property
- 6) Overlay of State or Federal land
- 7) All known water wells within 1/2 mile of property boundary
- 8) Labeled with ADWR Well Number, latitude and longitude
- 9) Provide the uses and well construction details of the water wells, if known, water level elevations in the wells, and highlight/identify the nearest downgradient well. Tabulation of this data to prevent excessive labeling on the site plan itself is preferred.)

24. Site Plan [A.A.C. R18-9-A202(A)(2), (4) and (8), A.R.S. 49-244], included in Report Section/Appendix N/A

Include the following:

- 1) North arrow
- 2) Scale
- 3) Property lines
- 4) Structures
- 5) Water wells
- 6) Injection Wells
- 7) Drywells and their uses
- 8) Topography
- 9) All known borings
- 10) 100-year floodplain (FEMA Flood Insurance Rate Map (FIRM) 100-year showing floodplain boundary preferred)
- 11) Surface water bodies
- 12) Surface water flow direction(s)
- 13) Groundwater flow direction(s)
- 14) Pollutant Management Area (PMA)
NOTE: In cases where the site is very large, there are multiple PMAs or there is an excessive amount of information that would make the site plan indecipherable, it may be clearer to provide site plans for discrete areas or provide a separate site plan with the PMA, DIA and POC wells.
- 15) Discharge Impact Area (DIA).

Also, include the following with the latitude and longitude:

- 1) Discharging facilities/discharge locations and existing and proposed Point of Compliance (POC) locations and/or wells
- 2) Tabulation of this data to prevent excessive labeling on the site plan itself is preferred.
 - a. ***For open pit mine facilities***, show the delineation of the passive containment capture zone (PCCZ) and the open pit boundary, if relying on this for BADCT.
 - b. ***For Sewage Treatment Facilities*** include effluent sampling and effluent discharge location(s) with latitude and longitude, and setback distance(s) measured from the treatment and disposal components within the sewage treatment facility to the nearest property line of an adjacent dwelling, workplace, or private property.

- **Is this application for a Sewage Treatment Facility (STF)?** YES___ NO X
- **If you answered “YES” to the question above, skip items #25 through 27, and proceed to item #28.**

**25. Characterization of discharge [A.A.C. R18-9-A202(A)(4)], included
in Report Section/Appendix N/A**

For all non-STF facilities: provide characterization of discharge to include a summary of known past and proposed facility discharge activities. Provide estimated discharge characteristics or results of actual discharge characterization, and quantities/flow rate. Tabulated data is preferred with laboratory results included as an appendix.

Professional Document Requirements

Please note that, except as exempted by A.R.S. § 32-144.A.7 (employees of mining companies), professional documents, such as reports, plans and specifications, are to be signed by an Arizona registered engineer or geologist (A.R.S. § 32-125). Cost estimates prepared by an engineer, design documents and engineering analysis must be signed and sealed by an Arizona Registered Professional Engineer, and must not include labels such as “Draft”, “Preliminary”, or “Not for Construction” per A.R.S. § 32-101(B)(10 and 11) and 32-125.

The following application sections are typically considered professional documents: Application Items 26 through 32 (Design Documents, BADCT Description, Hydrogeologic Study, Demonstration of Compliance with AWQS at POC, Monitoring Proposal, Contingency Plan, and Closure/Post-closure Plan/Strategy) and Item 35, 36 and 39 for Sewage Treatment Facilities (Design Report, Engineering Plans and Specifications, and Sludge Treatment facilities).

26. Design Documents [A.A.C. R18-9-A202(A)(3)], included in Report Section/Appendix N/A

For all non-STF facilities: provide facility design documents, proposed or as-built, indicating the configuration or other engineered elements of the facility affecting discharge. Drawings must be legible with readable font sizes and include sufficient detail to indicate the key design features. When formal as-built plans are not available, provide documentation sufficient to allow evaluation of those elements of the facility affecting discharge, following the demonstration requirements of A.R.S. 49-243(B). Provide construction specifications and a quality control/quality assurance plan for new facilities.

27. Best Available Demonstrated Control Technology “BADCT” Description⁵ [A.A.C. R18-9-A202(A)(5)], included in Report Section/Appendix N/A

For all non-STF facilities: provide design information pertaining to all discharging facilities including all calculations/analyses to demonstrate that all facilities are designed per BADCT guidance or rule.

Examples include: facility sizing, stability analyses, water balance, freeboard calculations, liner leakage rate calculations

For further specifics, please see the Mining and Industrial APP Engineering Substantive Checklist on the ADEQ website: <http://www.azdeq.gov/node/542>.

28. Hydrogeologic Study or justification that a limited study or no study is required [A.A.C. R18-9-A202(A)(8)], included in Report Section/Appendix N/A

For further specifics, please see the Hydrology Substantive Review Checklist on the ADEQ website: <http://www.azdeq.gov/node/542>.

29. Demonstration of Compliance with AWQS at POCs [A.A.C. R18-9-A202(A)(6)], included in Report Section/Appendix N/A

For further specifics, please see the Hydrology Substantive Review Checklist on the ADEQ website: <http://www.azdeq.gov/node/542>.

30. Monitoring Proposal [A.A.C. R18-9-A202(A)(9)], included in Report Section/Appendix 2

A detailed proposal indicating the alert levels, discharge limitations, monitoring requirements, compliance schedules, and temporary cessation or plans that the Applicant will use to satisfy the requirements of A.R.S. Title 49, Chapter 2, Article 3 and Articles 1 and 2 of Chapter 9. Include as applicable, discharge and groundwater monitoring and operational/inspections. Indicate sampling point(s) with latitude and longitude (e.g. effluent, discharge, groundwater monitoring or other sampling points)

31. Contingency Plan [A.A.C. R18-9-A202(A)(7) and R18-9-A204], included in Report Section/Appendix N/A

32. Closure and Post-closure Plan/Strategy [A.A.C. R18-9-A202(A)(10)], included in Report Section/Appendix N/A

For further specifics, please see the Closure and Post-closure Plan/Strategy and Cost Estimate Checklist on the ADEQ website <http://www.azdeq.gov/node/542>

Sewage Treatment Facility Applications ONLY (Items 33 through 39)

33. For Sewage Treatment Facilities (STFs), indicate the effluent disposal method(s) to be utilized and the disposal capacity for each method [A.A.C. R18-9-B202]:

Disposal Method	Flow capacity (gal/day)
<input type="checkbox"/> Beneficial reuse under a Recycled Water Permit	N/A
<input type="checkbox"/> Surface impoundment primarily for evaporation	N/A
<input type="checkbox"/> Surface impoundment primarily for recharge to groundwater	N/A
<input type="checkbox"/> Discharge to a Water of the U.S. under a Clean Water Act Permit (NPDES/AZPDES)	N/A
<input type="checkbox"/> Vadose zone injection wells	N/A
<input type="checkbox"/> Injection wells directly into groundwater	N/A
<input type="checkbox"/> Land application for disposal; not reuse	N/A
<input type="checkbox"/> Other, describe: _____	N/A

34. Documentation that the Sewage Treatment Facility is in conformance with the Area-wide 208 Quality Management Plan for Sewage Treatment Facilities [A.A.C. R18-9-A201(B)(6)].
Included in Report Section/Appendix N/A

For further information on the 208 requirements, please see the ADEQ website <http://www.azdeq.gov/208-review>

35. Sewage Treatment Facility Design Report [A.A.C. R18-9-B202], attached in Report Section/Appendix N/A

Include information pertaining to all discharging facilities including all calculations/analysis to demonstrate that all facilities are designed per BADCT treatment performance requirements in rule. In addition, include facility sizing, stability analyses, water balance, freeboard calculations, and liner leakage rate calculations.

An Arizona registered engineer shall seal the design report.

For further specifics please see the WWTP engineering review checklist on the ADEQ website <http://www.azdeq.gov/node/542>.

36. Sewage Treatment Facility Engineering Plans and Specifications [A.A.C. R18-9-B203], included in Report Section/Appendix N/A

The documents may include manufacturer's specifications and cut sheets and shall be sealed by an Arizona registered engineer.

37. Sewage Treatment Facility Recycled Water classification [A.A.C. R18-11, Article 3]: N/A

38. Sewage Treatment Facility Set-back map [A.A.C. R18-9-B201(I)], included in Report Section/Appendix N/A

39. Sewage Treatment Facility sludge treatment and disposal description [A.A.C. R18-9-B202]. Included in Report Section/Appendix N/A

If treatment or disposal at the facility includes discharging facilities, include the Design and BADCT information required by Items 26 and 27 above. Example of a discharging facility is a sludge drying bed.

END OF APPLICATION FORM

APPENDIX 1

Item 1. Application to Amend Aquifer Protection Permit No. P-101704 Florence Copper Project

Application to Amend Aquifer Protection Permit No. P-101704 Florence Copper Project

Appendix 1: Amendment Description

1.1 INTRODUCTION

Florence Copper Inc. (Florence Copper) herein requests amendment of Aquifer Protection Permit (APP) No. P-101704 under the “Other” permit amendment process authorized by Arizona Administrative Code (A.A.C.) R18-9-A211(D).

The purpose of this amendment is to clarify that the fluid electrical conductivity (EC) monitoring alert level (AL) currently included in APP No. P-101704 applies only to active mining phase operations. On 26 June 2020, Florence Copper ceased the active mining phase at the Production Test Facility (PTF) wellfield and initiated a three-phase rinsing demonstration that includes flushing, pH adjustment, and fixation of residual mineral constituents. During the flushing phase, no acid will be added to the raffinate stream and solution will continue to flow through the Solvent Extraction/Electrowinning (SX/EW) plant reducing both the free acid and sulfate load in the formation, while facilitating the continued removal of dissolved constituents.

Discontinuing acid addition to the raffinate has resulted in a rapid decrease in the fluid EC at the injection wells while there is expected to be little or no immediate change in fluid EC at the observation wells. Given these conditions, it is evident that fluid EC measurements at the observation wells will become equal to or greater than injection well fluid EC as fresh water is injected in the wellfield to advance the rinsing process.

Because part of the rinsing process includes injection of fresh water into the PTF injection wells, it is evident that the fluid EC of the “injectate” may be equal to or lower than water in the observation wells. A greater fluid EC measurement in an observation well than in an injection well would trigger an exceedance of the fluid EC AL as defined in Section 4.2, Table 15. Based on current fluid EC AL language included in the Permit, there is also a significant potential for false positive reporting during the formation rinsing phase resulting from the injection of fresh water. In response to the perceived exceedance, the Arizona Department of Environmental Quality (ADEQ) may subsequently require reduction of injection rates and increase of pumping rates. Reducing the injection of fresh water during rinsing would slow the rinsing process.

The purpose of the fluid EC monitoring set forth in the Permit is to detect if raffinate injected has migrated to the observation wells at the edge of the wellfield for the purpose of evaluating hydraulic control. Comparison of fluid EC measurements in injection and observation wells is not an effective means of monitoring hydraulic control during formation rinsing and injection of fresh water. The intent of this monitoring element is not to reduce or slow down the formation rinsing process, however, that would be the net effect during the rinsing phase.

To address this problem, in this application, Florence Copper proposes the addition of a footnote to Table 15 that states the fluid EC AL applies only to measurements collected during active mining operations.

The requested amendment qualifies as an Other Amendment in accordance with A.A.C. R18-9-A211(D) because the requested change does not meet the criteria specified under A.A.C. R18-9-A211(B) or (C) which define Significant and Minor amendments, respectively. A.A.C. R18-9-A211(D) states that the Director may issue an Other Amendment if the amendment does not meet the criteria for a Significant or Minor amendment. The applicability of criteria pertaining to a Significant or Minor amendment are summarized in Tables 1 and 2, respectively.

Table 1. Significant Amendment Permit Application Criteria

Amendment Type	A.A.C. Reference	Description of Criterion	Applies to the Proposed Amendment	Notes
Significant Amendment A.A.C. R18-9-A211(B)	A.A.C. R18-9-A211(B)(1)	Part or all of existing facility becomes a new facility	No	No new facilities are proposed
	A.A.C. R18-9-A211(B)(2)	Physical change in a permitted facility or change in its method of operation	No	No physical change is proposed to the permitted facility, the existing facility will be used as originally planned and permitted
	A.A.C. R18-9-A211(B)(3)	The facility can no longer demonstrate that its discharge will be compliant	No	Discharge will comply with the Aquifer Protection Permit (APP) No. P-101704
	A.A.C. R18-9-A211(B)(4)	The permittee requests less stringent monitoring that reduces the frequency or number of pollutants monitored	No	There is no requested reduction in monitoring frequency or number of pollutants monitored
	A.A.C. R18-9-A211(B)(5)	It is necessary to change the location of a point of compliance	No	There is no requested change in the location of points of compliance
	A.A.C. R18-9-A211(B)(6)	It is necessary to update Best Available Demonstrated Control Technology for a facility that was not constructed within 5 years of permit issuance	No	The subject facility was constructed as permitted
	A.A.C. R18-9-A211(B)(7)	The permittee requests less stringent discharge limitation	No	The requested discharge limitation is the same as originally permitted for the subject facility
	A.A.C. R18-9-A211(B)(8)	It is necessary to make an additional or substantial change in closure requirements to provide for post-closure monitoring and maintenance	No	There is no proposed change to the facility closure requirements which are already covered under APP No. P-101704
	A.A.C. R18-9-A211(B)(9)	Material and substantial changes to a permitted facility including change of disposal method	No	No change is proposed to the permitted facility or disposal method

Table 2. Minor Amendment Permit Application Criteria

Amendment Type	A.A.C. Reference	Description of Criterion	Applies to the Proposed Amendment	Notes
Minor Amendment	A.A.C. R18-9-A211(C)(1)	Correct a typographical error	No	The purpose of the requested amendment is not to correct typographical errors
	A.A.C. R18-9-A211(C)(2)	Change nontechnical administrative information	No	The purpose of the requested amendment is not to correct nontechnical administrative information
	A.A.C. R18-9-A211(C)(3)	Correct minor technical errors	No	The purpose of the requested amendment is not to correct minor technical errors
	A.A.C. R18-9-A211(C)(4)	Increase the frequency of monitoring or reporting, or to revise a laboratory method	No	The purpose of the requested amendment is not to change monitoring, reporting, or laboratory method requirements
	A.A.C. R18-9-A211(C)(5)	Make a discharge limitation more stringent	No	The purpose of the requested amendment is not to make discharge limitations more stringent
	A.A.C. R18-9-A211(C)(6)	Make a change in recordkeeping or retention requirement	No	No change is requested to recordkeeping or retention requirements
	A.A.C. R18-9-A211(C)(7)	Insert calculated alert level (AL), aquifer quality limits (AQL) or other permit limits based on monitoring subsequent to permit issuance if a requirement to establish the ALs or AQLs and the method of the calculation of the levels was established in the original permit	No	The permit does not include a requirement to establish ALs subsequent to permit issuance

This requested amendment is for the purpose of clarifying the applicability of an established AL. This requested amendment does not include a change in operation or monitoring of the facility, and consequently is not a Significant Amendment. Because the amendment does not make minor language changes, examples of which are provided in A.A.C. R18-9-A211(C), it is not a Minor Amendment.

1.2 GENERAL INFORMATION

Florence Copper is preparing to construct the In-Situ Copper Recovery (ISCR) facility authorized by APP No. P-101704. The PTF ceased operation on 26 June 2020, and is currently undergoing rinsing operations. Applicant, owner, location, and facility information are provided on the accompanying application form.

1.3 LANDOWNER INFORMATION (ITEM 11)

The Florence Copper Project site includes an area of approximately 1,342 acres that consists of two contiguous parcels of land. The land parcels consist of 1,182 acres held in fee simple ownership and 160 acres on Arizona State Trust Lands under Arizona State Mineral Lease 11-26500. Ownership information for the fee simple land and the Arizona State Land parcel are provided below.

Florence Copper Inc.

Attn: Mr. Brent Berg
1575 West Hunt Highway
Florence, Arizona 85132
(520) 316- 3710

Arizona State Land Department

Mineral Lease #11-26500
Attn: Ms. Lisa Atkins
1616 West Adams Street
Phoenix, Arizona 85007
(602) 542-4631

A copy of the lease agreement for the portion of the property on Arizona State Land is included as Exhibit 1-1.

1.4 OTHER STATE AND FEDERAL ENVIRONMENTAL PERMITS (ITEM 14)

1. Underground Injection Control Permit No. R9UIC-AZ3-FY11-1 issued 20 December 2016.

1.5 FACILITY DESCRIPTION (ITEM 20)

The ISCR Area covers an area of approximately 212 acres and is divided into resource blocks for planning purposes. The well installation and operation will progress following a planned sequence with the number of wells and resource blocks dependent on the capacity of the SX/EW plant. No changes to facility configuration, operation, discharging facilities, activities that discharge, sources of waste, or location of discharge are proposed in conjunction with the requested permit amendment.

1.6 PROCESS FLOW AND DISCHARGE (ITEM 21)

The planned maximum volume of solution to be discharged to the water impoundment is 18,216,000 gallons per day. The maximum volume is listed on the application form and represents a discharge of the full wellfield volume for a period of 24 hours in response to a hypothetical upset condition. No change to the process flow discharge is proposed in conjunction with the requested permit amendment.

1.7 DISCHARGING FACILITIES (ITEM 22)

The currently authorized discharging facilities are listed on the accompanying permit application form. No change to discharging facilities operation, location, or discharge are proposed in conjunction with the requested permit amendment.

1.8 CHARACTERIZATION OF DISCHARGE (ITEM 25)

The physical and chemical characteristics of discharge are described in the geochemical modeling report generated in 2019 in support of the APP application. No change to the characteristics of discharge is proposed in conjunction with the requested permit amendment.

1.9 DESIGN DOCUMENTS (ITEM 26)

Not applicable. No change to the facility design is proposed in conjunction with the requested permit amendment.

1.10 BEST AVAILABLE DEMONSTRATED CONTROL TECHNOLOGY DESCRIPTION (ITEM 27)

Not applicable. No new construction or modification of discharging facilities is proposed in conjunction with this amendment.

1.11 HYDROGEOLOGIC STUDY (ITEM 28)

Not applicable. The purpose of the requested amendment is to clarify the applicability of the fluid EC AL for the ISCR wellfield. No hydrogeologic study is required.

1.12 DEMONSTRATION OF COMPLIANCE WITH AQUIFER WATER QUALITY STANDARD AT POINTS OF COMPLIANCE (ITEM 29)

Not applicable. No changes are proposed to the existing points of compliance for the existing discharging facilities.

1.13 MONITORING PROPOSAL (ITEM 30)

A proposal describing the proposed revision to the fluid EC AL applicability is included in Appendix 2. No other changes are proposed to the existing monitoring program.

1.14 CONTINGENCY PLAN (ITEM 31)

Not applicable. No changes are proposed to the current contingency plan in conjunction with the requested permit amendment.

1.15 CLOSURE AND POST-CLOSURE PLAN (ITEM 32)

Not applicable. No changes are proposed to the closure and post-closure plan in conjunction with the requested permit amendment. Closure and post-closure costs for the water impoundment have been submitted to the ADEQ within the past 5 years and remain current.

Attachments:

Exhibit 1-1 – Arizona State Land Mineral Lease

EXHIBIT 1-1

Arizona State Land Mineral Lease

MINERAL LEASE

11-26500

Florence Copper Inc.
1575 W. Hunt Highway
Florence, AZ USA 85132

N2S2 Section 28, T4S, R9E

Pinal County

Term

December 13, 2013 – December 12, 2033

STATE LAND DEPARTMENT

STATE OF ARIZONA



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STATE OF ARIZONA

MINERAL LEASE

Lease No. 11-26500

This mineral lease ("Lease") is entered into by and between the State of Arizona ("the State" or "Lessor"), Arizona State Land Department ("Department"), through the State Land Commissioner ("Commissioner"), and Florence Copper Inc. ("Lessee"), pursuant to A.R.S. § 27-254. In consideration of the payment of rent and royalties and of performance by the parties of each of the provisions set forth herein, the parties agree as follows:

Article 1 LEASED LAND

- 1.1 **Lease Provisions.** Lessor hereby leases to Lessee, and Lessee hereby leases from Lessor, for the term, at the rent and royalty rate and in accordance with the provisions of this Lease, the State Land described below and in Appendix A ("Legal Description"), and as depicted in Appendix B ("Location Map") attached hereto and herein referred to as "the Leased Land".

Township 4S, Range 9E, Section 28, N2S2, Pinal County, 160.00 Acres

- 1.2 **Lease Condition.** Lessee takes the Leased Land "as is" and Lessor makes no expressed or implied warranties as to the physical condition of the Leased Land.

Article 2 TERM

- 2.1 **Lease Term.** The term of this Lease:

Commences on the	<u>13th</u>	day of	<u>December 2013</u>
And expires on the	<u>12th</u>	day of	<u>December 2033</u>

unless canceled earlier or terminated as provided herein or as provided by law. Notwithstanding provisions of this Lease relating to termination or cancellation, the provisions on environmental or other indemnification, restoration, reclamation and insurance requirements survive the termination or cancellation of this Lease and remain enforceable

- 2.2 **Lease Termination.** Upon the sale, exchange, redemption, reconveyance, relinquishment or taking, whether by eminent domain or institutional use, lease of all or any portion of the Leased Land shall terminate on the date of such taking as to the property so taken.

Article 3

RENT

- 3.1 **Rental Requirement.** Lessee shall pay rent to Lessor as follows for the use and occupancy of the Leased Land during the term of this Lease without offset or deduction and without notice or demand, as established on an annual basis.
- 3.2 **Annual Rent and Adjustments.** The annual rent is established by Lessor based on an August 1, 2014 appraisal of the Leased Land. Rent for this Lease shall be: \$60,500.00 per year. The rent will be billed in advance by the Department and is due on or before the anniversary date of the Lease. The Leased Land shall be reappraised and the annual rent reestablished after the Production Test Facility is completed and before the commercial phase of the operation is started.

Article 4

COMMODITIES and UNITS OF PRODUCTION

- 4.1 **Mineral Commodity.** Copper
- 4.2 **Production Units.** Tons (short)

Article 5

ROYALTY

- 5.1 **Royalty Rate.** Lessee shall pay the Lessor a royalty fee equal to a percentage of the gross value for all 'Minerals' (as defined in A.R.S. §27-231) 'Produced and Sold' (as that term is used in A.R.S. §27-234) from the Leased Land subject to such adjustments as may be permitted by the terms of this Lease.

- 5.1.1 **Sliding Scale Factor:** The Upper and Lower Limits (as defined in sections 5.1.2 and 5.1.3) utilized to determine the range of copper values upon which the Sliding Scale Factor ("SSF") is established, shall be re-evaluated and fixed on each January 1 over the Term of the Lease. The SSF shall range between two and eight percent. The SSF shall be calculated according to the following equation:

$$\text{SSF} = 6\% / (\text{Upper Limit} - \text{Lower Limit})$$

where: 6% represents the difference between the highest possible Royalty Rate (8%) and the lowest possible Royalty Rate (2%).

- 5.1.2 **Upper Limit:** The Upper Limit is defined as the copper price at which the maximum percentage royalty of 8% would be assessed.

As of December 13, 2013, the Upper Limit shall be \$3.98 per pound of copper. After January 1, 2015, the Upper Limit shall be reestablished annually on each January 1 such that it equals the numeric average of the monthly copper price, defined in section 5.2 as the Copper Index Price ("CIP"), calculated for the prior sixty (60) months plus one standard deviation for that same sixty (60) month period.

- 5.1.3 **Lower Limit:** The Lower Limit is defined as the Modified Break-Even Copper Price, which is that copper price where the mining project associated with the Leased Land (i.e. the Florence Copper Project) has a net present value ("NPV") of zero.

As of December 13, 2013, the Lower Limit shall be \$2.81 per pound of copper. The Lower Limit shall be reestablished annually after January 1, 2015 by the Arizona State Land Department. The Lower Limit shall be the weighted average of the total production cost based on the future projections of mine revenue and operating cost (life of mine) as reported by Lessee to Lessor and to the Arizona State Department of Revenue ("DOR") annually pursuant to DOR Property Tax Form 82061-A.

- 5.1.4 **Royalty Rate:** The Royalty Rate, for the period from January 1, 2014 to December 31, 2014 shall be two percent whenever the monthly average CIP is \$2.81 per pound or less (Lower Limit), and shall be eight percent whenever the monthly average CIP is \$3.98 per pound or more (Upper Limit). The Royalty Rate shall be calculated for any CIP that occurs within the range between \$2.81 per pound and \$3.98 per pound as follows:

$$\text{Royalty Rate} = [(CIP - \text{Lower Limit}) \times \text{SSF}] + \text{Minimum Royalty Rate}$$

where: CIP = monthly Copper Index Price
Lower Limit = copper price fixed each January 1
SSF = Sliding Scale Factor
Minimum Royalty Rate = 2% (according to A.R.S. § 27.234.C)

- 5.2 **Market Value:** The CIP shall be the average monthly "US Transaction" price as reported by *Platts Metals Week Price Notification Monthly Report*¹

In the event that the above price ceases to be published, or for any reason becomes inappropriate for the purpose of this lease, a replacement CIP shall be selected by the Commissioner using a nationally recognized pricing index for major mineral commodities.

- 5.3 **Gross Value:** The gross value for each calendar month shall be the sum, expressed in United States dollars, of all minerals produced and sold during the previous calendar month. The gross value for copper produced and sold during a calendar month shall be calculated as follows:

$$\text{Gross Value} = CIP \times \text{Pounds of Copper Produced and Sold}$$

where: CIP = copper index price
Pounds of Copper Produced and Sold = pounds of copper produced and sold for the previous calendar month

The gross value for other minerals produced and sold during the calendar month shall be calculated in a manner similar to the gross value for copper produced and sold, valued in accordance with A.R.S. §27-234.

- 5.4 **Monthly Royalty:** Each calendar month, Lessee shall pay the Lessor the Royalty (the 'Monthly Royalty') calculated based on minerals produced and sold from the Leased Land during the prior calendar month. The amount of the Monthly Royalty shall be calculated as follows:

$$\text{Monthly Royalty} = \text{Gross Value} \times \text{Royalty Rate}$$

where: Gross Value = calculated as defined in Section 5.3
Royalty Rate = percentage as defined in Section 5.1

¹ Copyright © 2009 The McGraw-Hill Companies, Inc.

- 5.5 **Other Minerals:** In the event that other minerals or mineral products are produced and sold from the Leased Land, they shall be valued in accordance with A.R.S. §27-234 and similarly included in the computation of gross value. Should the mineral or mineral product not have a published price, the gross value shall be based on an appraisal that estimates the fair market price of the mineral (A.R.S. §27-234.B). This shall not apply to by-products from the waste water treatment plant.
- 5.6 **Production Reports:** Monthly production reports, including documentation when required, shall be submitted to the Lessor for each month, including reports for negative production, after the first month of production. Reports are due on or before the 15th of each month following the month of production.
- 5.7 **Minimum Annual Royalty:** Lessee shall pay to Lessor a minimum royalty of \$1,000.00 at the signing of the Lease, and a minimum royalty of \$3,200.00 each year thereafter on or before the anniversary of the Commencement Date of the Lease. The minimum annual royalty shall be a credit for Lessee, fully recoupable against production royalties (the Monthly Royalty in Article 5.4) due to Lessor for material used or removed; however, the entire portion of minimum annual royalty unused or not recouped upon the termination or expiration of the Lease shall be the sole property of Lessor. Lessee shall pay the minimum annual royalty each year regardless of use or removal of materials. The minimum annual royalty shall be a continuing credit during the term of the Lease.
- 5.8 **Royalty Payments:** Royalty payments shall be due within thirty (30) days after billing by the Department.
- 5.9 **Appraisal Costs:** If, during the term of this Lease, the Lessor determines that a new appraisal is appropriate pursuant to A.R.S. §27-234.C, the Lessor shall arrange for such appraisal and the Lessee shall pay to Lessor within 30 days of the Lessor's request the cost of the appraisal. Such reappraisal shall be required after the completion of the Production Test Facility and before the commercial phase of the operation is started to reestablish the royalty rate.
- 5.10 **Failure to Pay:** If Lessee fails to pay royalty or appraisal costs described in this Article, on or before the date the payment is due, the amount due accrues interest at the rate and in the manner determined pursuant to A.R.S. §42-1123. If it is determined that failure to pay royalty is not due to reasonable cause, a penalty of five percent (5%) of the amount found to be remaining due shall be added to the royalty for each month or fraction of a month elapsing between the due date and the date on which it is paid. The total penalty shall not exceed one-third (1/3) of the royalty remaining due. The penalty so added to the royalty is due and payable within (10) days of notice and demand from the Commissioner. If any royalty, appraisal assessment, interest, or penalty is not paid by the Lessee when due, the unpaid amounts constitute a lien from the date the amounts become due on all property and rights to property belonging to the Lessee that are located on the Leased Land.

Article 6

USE OF LEASED LAND

- 6.1 **Purpose.** The Leased Land is leased to Lessee for the purposes of mineral extraction and for uses related thereto and no other use.
- This Lease confers the right to extract, process and ship minerals, mineral compounds, and mineral aggregates from the Leased Lands within planes drawn vertically downward through the exterior boundary lines thereof.
- 6.2 **Consistent With Mine Operating Plan.** Any use of the Leased Land must be performed in a manner consistent with the approved Mine Operating Plan as required under the provisions of Article 21.

Article 7
RECORDS AND INSPECTION

- 7.1 **Annual Records.** Lessee shall provide the following records on an annual basis to Lessor on or before each anniversary of the effective date of this Lease:
- 7.1.1 Annual Operations Status Report which includes: an itemized statement of mineral production, total tons of materials mined and processed, total acres disturbed, and total acres reclaimed, and an annual groundwater monitoring report.
 - 7.1.2 Relevant Arizona State Department of Revenue form(s) (82061-A for copper, 82061-B for non-copper, 82061-C for small-scale mines).
 - 7.1.3 Any additional records pertinent to appraisal, compliance with this Lease and mineral production deemed necessary by the Commissioner.

Article 8
TAXES; ADDITIONAL AMOUNTS

- 8.1 **Assessments Paid By Lessee.** Lessee shall pay all assessments and charges for utilities and communication services, and assessments imposed pursuant to any construction on the Leased Land, all permit and authorization fees, all taxes, duties, charges and assessments of every kind or nature imposed by any public, governmental or political subdivision authority pursuant to any currently or subsequently enacted law, ordinance, regulation or order, which during the term of this Lease, becomes due or are imposed upon, charged against, measured by or become a lien on (a) the Leased Land, (b) any improvements or personal property of Lessee located on the Leased Land, and (c) the interest of Lessee to this Lease or in the proceeds received by Lessee from any assignment or sublease of the Leased Land.
- 8.2 **Assessment Deadline.** Lessee shall pay or cause to be paid all amounts required to be paid under Paragraph 8.1 before any interest, penalty, fine or cost accrues for nonpayment.

Article 9
WAIVER

- 9.1 **Waiver Definition.** Acceptance of rent and/or royalty payments by Lessor shall not constitute a waiver by Lessor of any violation by Lessee of the provisions of this Lease.
- 9.2 **Future Waiver.** No waiver of a breach of any provision of this Lease shall be construed as a waiver of any succeeding breach of the same or any other provision.

Article 10
IMPROVEMENTS

- 10.1 **Non-Permanent Improvements.** This Lease confers the right to Lessee to place non-permanent improvements consistent with the approved Mine Operating Plan as required under the provisions of Article 21. Upon the expiration, termination or abandonment of this Lease, Lessee shall be obligated to

remove improvements consistent with Approved Reclamation Plan as required under the provisions of Article 22. To the extent that non-permanent improvements may remain following closure and reclamation as required under Article 22, Lessee shall have the right to remove the improvements if all monies owing to the State under the terms of this Lease have been paid.

Article 11

LESSEE'S COOPERATION; INGRESS AND EGRESS

- 11.1 **Reasonable Department Ingress.** Representatives of the Department may enter, and Lessee shall maintain access to the Leased Land at reasonable times to inspect the workings, improvements and other facilities used to extract or sever minerals from Leased Land. Representatives of the Department may enter at reasonable times to obtain factual data or access to records pertinent to mineral production required to be kept under the terms of this Lease and otherwise ascertain compliance with the law and the terms of this Lease.
- 11.2 **Reasonable Notice.** Inspections, investigations, and audits conducted under Article 11.1 shall be on reasonable notice to Lessee unless reasonable grounds exist to believe that notice would frustrate the enforcement of the law or the terms of this Lease.
- 11.3 **Lessee Appearance at Commissioner's Office.** The Commissioner may require Lessee to appear at reasonable times and on reasonable notice at the Commissioner's office and produce such records and information as are specified in the notice to determine compliance with the terms of this Lease.
- 11.4 **Lessee Cooperation.** Lessee shall cooperate with Lessor in Lessor's inspection, appraisal and management of the Leased Land and permit reasonable access by Lessor's employees to isolated State Land across Lessee's private land during the term of this Lease.
- 11.5 **Lessee Interference.** Lessee shall not unreasonably interfere with the authorized activities of Lessor's employees, agents, other lessees, and permittees or right-of-entry holders on the Leased Land.
- 11.6 **Established Rights-of-Way.** This Lease is made subject to all legally established rights-of-way heretofore granted or that may hereafter be granted over and across the Leased Land.
- 11.7 **Ingress and Egress to Other State Lands.** This Lease confers the right of ingress and egress to other State land, whether or not leased for purposes other than mining.

Article 12

LOSS OR WASTE

- 12.1 **Lessee Waste.** Lessee shall not cause, nor grant permission to another to cause, any waste (destruction, misuse, alteration, or neglect) in or upon the Leased Land. This provision does not apply to activities authorized by this Lease that are subject to the reclamation and environmental requirements of this Lease.

Article 13
NATIVE PLANTS AND CULTURAL RESOURCES

- 13.1 **Native Plants.** Lessee shall not move, use, destroy, cut or remove or permit to move any used, destroyed, or cut timber, cactus, native plants, standing trees or products of the land except that which is necessary for the use of the Leased Land, and then only with the prior written approval of Lessor. Lessee must submit a plant survey prior to the removal of any native plants. If the removal or destruction of plants protected under the Arizona Native Plant Law (A.R.S. § 3-901 et seq., or any successor statutes) is necessary to the use of the Leased Land, Lessee shall also obtain written approval of the Arizona Department of Agriculture. In the event Lessee removes the native plants, Lessee must pay a vegetation fee to Lessor and this fee is not a reimbursable improvement. Lessee is responsible for treatment of all regulated and restricted noxious weeds listed by the Arizona Department of Agriculture.
- 13.2 **Invasive Species.** Measures to limit the introduction of invasive species and any additional non-native species will be accomplished using Best Management Practices. This will include the use of certified weed-free straw or fiber roll logs for use in reclamation and/or sediment containment.
- 13.3 **Cultural Resources.** Prior to initiating any operation or activity requiring surface or ground disturbance, Lessee shall comply with all conditions and provisions of the most recently approved plans and agreements associated with the National Historic Preservation Act of 1996. If prehistoric or historic features, artifacts or properties, vertebrate paleontological sites, including fossilized footprints, inscriptions made by human agency or any other archaeological, paleontological or historical feature are encountered, Lessee shall immediately cease all work in the immediate vicinity of the encounter and notify and consult with the State Historic Preservation Office (SHPO), the Arizona State Museum (ASM) and the Department regarding avoidance, preservation, recovery and/or curation.

Lessee further agrees that:

- 13.3.1 Lessee shall ensure that all cultural resource investigations on the Leased Land are permitted pursuant to A.R.S. §41-841, et seq., and that the investigations and resulting reports satisfy the terms of the permit.
- 13.3.2 Lessee shall ensure that two copies of the report describing the results of the completed cultural resource survey of the Leased Land are submitted to Lessor for Lessor's use in consulting with SHPO pursuant to A.R.S. §41-861, et seq.
- 13.3.3 Lessee shall cause no surface disturbance within the boundaries of any known archaeological sites without Lessor approval.
- 13.3.4 If any previously unknown human remains, funerary objects, sacred ceremonial objects or objects of tribal patrimony, archaeological, paleontological or historical site or object that is at least 50 years old are encountered during surface disturbing activities, Lessee shall cease operations immediately and report the discovery to Lessor and to the Director of the ASM pursuant to A.R.S. §41-844.
- 13.3.5 At any and all times that ground disturbing activities are being performed on the Leased Land, Lessee shall have a qualified archaeologist on site to monitor the operations and insure compliance with the provisions of Article 13.3.

Article 14
PROTECT LAND, PRODUCTS AND IMPROVEMENTS

- 14.1 **Reasonable Means.** Lessee is hereby authorized to use means which are reasonable and which do not result in a breach of the peace or in creating a concealed hazard, to protect the Leased Land and improvements against waste, damage and trespass. In the event of known trespass on the Leased Land resulting in damage thereto, Lessee shall make reasonable efforts to notify Lessor and appropriate law enforcement authorities.
- 14.2 **Fencing.** Lessee shall, at its expense, fence all shafts, prospect holes, adits, tunnels, process ponds and other dangerous mine workings for the protection of public health and safety and livestock.
- 14.3 **Compliance with Applicable Regulations.** Lessee shall comply with all requirements of any governmental agency having jurisdiction over Lessee's activities on the Leased Land.

Article 15
RESERVATIONS, RELINQUISHMENTS TO UNITED STATES

- 15.1 **Rights-of-Ways and Easements.** Lessor reserves the right to grant rights-of-way, easements and sites over, across, under or upon the Leased Land for public highways, railroads, utility lines, pipelines, irrigation works, flood control, drainage works and other purposes.
- 15.2 **Relinquishing Lands for Federal Projects.** Lessor reserves the right to relinquish to the United States land needed for irrigation works in connection with a government reclamation project and to grant or dispose of rights-of-way and sites, for canals, reservoirs, dams, power or irrigation plants or works, railroads, tramway, transmission lines or any other purpose or use on or over the Leased Land.
- 15.3 **Compensation Waiver.** In the event of such relinquishment, grants or disposals, Lessee waives all right to any compensation whatsoever against Lessor except as may be allowed under the provisions of Article 16 and as limited therein.

Article 16
CONDEMNATION

- 16.1 **Division of Condemnation Awards.** Lessor, any pertinent leasehold mortgagees and, if Lessee is not in default, Lessee, shall cooperate in prosecuting and collecting their respective claims for an award on account of a taking of all or any portion of the Leased Land and all damages or awards (with any interest thereon) to which Lessor, Lessee or any pertinent leasehold mortgagees may be entitled by reason of any taking of all or any portion of the Leased Land (herein referred to as "Condemnation Proceeds"). In the event of the taking or condemnation by any competent authority for any public or quasi-public use or purpose of all or any portion of the Leased Land at any time during the Lease Term, the rights of Lessor, Lessee, or any leasehold mortgagees, to share in the net proceeds of any award for land, buildings, improvements and damages upon any such taking, shall be apportioned as follows:
- (i) Lessee shall receive that portion attributed to the then fair market value of the buildings and improvements constructed thereon and Lessee shall receive the fair market value immediately prior to such taking of Lessee's leasehold interest in the Leased Land so taken;

(ii) Lessor shall receive the fair market value of its reversionary interest under this Lease (exclusive of any value attributable to improvements).

The entire amount of the award, settlement or payment attributable to the value of buildings and improvements shall belong to Lessee.

- 16.2 **Lease Termination.** If the whole or materially all of the Leased Land shall be taken or condemned by a competent authority, this Lease shall cease and terminate and all rental, additional rent and other charges hereunder shall be apportioned as of the date of vesting of title in such taking or condemnation proceedings. For the purposes of this Article, a taking or condemnation of materially all of the Leased Land, as distinguished from a taking or condemnation of the whole of the Leased Land, means a taking of such scope that: (a) the untaken portion of the Leased Land is not reasonably usable for Lessee's purposes or is insufficient to permit the reclamation of the then existing improvement thereon or is insufficient to permit the recovery of the cost of reclamation of the then existing improvements thereon, or (b) the remaining untaken portion of the Leased land and the improvements thereon are incapable of producing a proportionately fair and reasonable net annual income, taking into consideration the payment of all operating expenses thereof including but not limited to the net rental, additional rental and all other charges herein reserved and after the performance of all covenants, agreements and provisions herein provided to be performed by Lessee. The determination of what constitutes a fair and reasonable net annual income shall be governed by reference to the average net annual income produced by the Leased Land during the five-year period immediately preceding the taking (or, if the taking occurs during the first five years of the Lease Term, during the Lease Term to date). As used above, the term "operating expenses" does not include depreciation or income taxes. If there is any controversy as to whether materially all of the Leased Land has been taken, the controversy shall be resolved by arbitration.

If materially all of the Leased Land are taken or condemned, then Lessee, at its option, upon thirty (30) days prior notice to Lessor, given at any time within ninety (90) days after the vesting of title in the condemnor, may cancel and terminate this Lease as to the entire Leased Land. The rent and other charges hereunder shall be prorated as of this date of termination.

- 16.3 **No Termination of Lease.** In the event of a partial taking or condemnation, i.e. a taking or condemnation of less than materially all of the Leased Land, this Lease (except as hereinafter provided) shall nevertheless continue, but the rent for the Lease Year in which such condemnation occurs shall be prorated as of the date of such condemnation and that portion of the rent attributable to that portion of the Leased Land so taken shall be credited to Lessee's obligations next arising under this Lease and the rent shall be reduced proportionately to reflect the loss of the land taken.

- 16.4 **Temporary Taking of Lease.** If the whole or any part of the Leased Land or of Lessee's interest under this Lease be taken or condemned by any competent authority for its or their temporary use or occupancy for a period which is fewer than four (4) months, this Lease shall not terminate by reason thereof and Lessee shall continue to pay, in the manner and at the times herein specified, the full amounts of the rent and all additional rent and other charges payable by Lessee hereunder, and, except only to the extent that Lessee may be prevented from so doing pursuant to the terms of the order of the condemning authority, to perform and observe all of the other terms, covenants, conditions and obligations hereof upon the part of Lessee to be performed and observed, as though such taking or condemnation had not occurred. If the whole or any part of the Leased Land or Lessee's interest in this Lease be taken or condemned by a competent authority for its or their temporary use or occupancy for a period which is in excess of four (4) months, this Lease may be terminated at the option of Lessee upon notice given within thirty (30) days of the taking or condemnation. Notwithstanding anything to the contrary herein, in the event of any temporary taking or condemnation Lessee shall, if this Lease has not been terminated as provided in this Article, be entitled to receive the entire amount of any award made for such taking or condemnation, whether paid by way of damages, rent or otherwise, unless such period of temporary use or occupancy shall extend to or beyond the Expiration Date, in which case such award shall be apportioned between Lessor and Lessee as of such Expiration Date.

Article 17

USE OF WATER

- 17.1 **Groundwater Rights.** Lessee shall be entitled to the use on the Leased Land of groundwater as defined in A.R.S. §45-101, or any successor statute, for purposes consistent with this Lease. Lessee shall obtain all required permits from the Arizona Department of Water Resources ("ADWR"). If Lessee shall develop any groundwater on the Leased Land, Lessee shall not acquire any rights with respect to the groundwater, except the right to use such water in accordance with applicable law, on the Leased Land during this Lease.
- 17.2 **Alternate Groundwater Source.** If Lessee uses, on the Leased Land, groundwater, or water from other sources, that use shall not (1) cause such water or any rights with respect to that water to be appurtenant to the Leased Land, or (2) affect in any way Lessee's rights with respect to the water, or unlawfully degrade groundwater quality.
- 17.3 **Well Abandonment.** Prior to the Lessee vacating the Leased Land, Lessee agrees to contact the Department to confirm whether the well(s) are required to be abandoned or capped. If requested by the Department, the Lessee may be required to conduct groundwater quality analysis. All fees associated with well capping, abandonment, and groundwater quality analysis shall be borne by the Lessee.
- 17.4 **Surface Water Rights.** The rights of Lessor and Lessee concerning the application for an establishment of any rights with respect to surface water as defined in A.R.S. §45-101, or any successor statute, shall be governed by State law.
- 17.5 **Validity of Surface Water Rights.** Nothing in the provisions of this Lease shall affect the validity of any rights established by or for Lessor or Lessee with respect to surface water, as defined in A.R.S. §45-101, prior to the commencement date of this Lease.
- 17.6 **Establishment of Water Rights.** The application for and establishment by Lessor or Lessee (as agent of the State of Arizona) of any surface or groundwater rights shall be in the name of the State of Arizona (Arizona State Land Department), and; such rights shall attach to and become appurtenant to the Leased Land in accordance with the provisions of A.R.S. Title 45, Chapters 1 and 2.
- 17.7 **Lessor Notification.** Lessee shall promptly notify Lessor in writing of any initial filings made by Lessee with any governmental agency or court concerning the establishment or adjudication of any claim to a water right relating to the Leased Land. Upon request of Lessor, Lessee shall furnish copies of any document filed with the agency or court.
- 17.8 **Annual Report.** The ADWR requires an annual report of groundwater pumped from non-exempt well(s) within both Active Management Areas and Irrigation Non-Expansion Areas. If applicable, Lessee shall submit to ADWR the Annual Water Withdrawal and Use Report and associated fees within the time period specified by ADWR. Lessee shall provide a copy of such report to Lessor.
- 17.9 **Water Use Not Beneficial to Lease.** If Lessee desires to move groundwater off the Leased Land, or use groundwater for purpose(s) different from those stated in this Lease, Lessee shall file an application with Lessor for a public auction water sale. Movement of groundwater from the Leased Land prior to a public auction is prohibited.
- 17.10 **Guarantee of Availability or Quality.** Lessor, by issuing this Lease, makes no guarantee with respect to groundwater availability or groundwater quality.
- 17.11 **Lessor's Access.** Lessee shall provide the Lessor's personnel access to well(s) on the Leased Land.

Article 18
DEFAULT AND CANCELLATION

- 18.1 **Default Definition.** Violation by Lessee of any provision of this Lease shall be a default hereunder entitling Lessor to any and all remedies it may have under State law.
- 18.2 **Lease Cancellation.** Upon any such default, this Lease may be canceled pursuant to A.R.S. §37-289 or any successor statute.
- 18.3 **Cancellation for Conflict of Interest.** Pursuant to A.R.S. § 38-511, the State or any department or agency of the State may, within three years after its execution, cancel any lease, without penalty or further obligation, made by the State or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating the lease on behalf of the State or any of the departments or agencies of the State, is at any time while the lease is in effect, an employee or agent of any other party to the lease in any capacity or a consultant to any other party of the lease with respect to the subject matter of the lease. A cancellation made pursuant to this provision shall be effective when Lessee receives written notice of the cancellation unless the notice specifies a later time. (moved from 23.12)
- 18.4 **Lessee Lease Termination.** Lessee may terminate this Lease at any time during its term by giving the Commissioner thirty (30) days written notice of the termination, if Lessee is not delinquent in the payment of rent, royalty or appraisal fees to the date of termination, and if the Leased Land has been reclaimed to a condition satisfactory to the Commissioner.

Article 19
INDEMNIFICATION AND INSURANCE

- 19.1 **Lessee Defense of Actions or Proceedings.** In case an action or proceeding is brought against Lessor by reason of any such occurrence, Lessee, upon Lessor's request and at Lessee's expense, will resist and defend such action or proceedings, or cause the same to be resisted and defended either by counsel designated by Lessee or, where such occurrence is covered by liability insurance, by counsel designated by the insurer.
- 19.2 **Indemnification of State of Arizona.** To the extent allowed by law, Lessee shall defend, indemnify and hold harmless the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees (hereinafter for Article 19 referred to as "State of Arizona") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees, and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused, in whole or in part, by the negligent or willful acts or omissions of Lessee or any of its owners, officers, directors, agents, employees or sublessees, arising out of or related to Lessee's occupancy and use of the Leased Land. It is the specific intention of the parties that the State of Arizona shall, in all instances, except for Claims arising solely from the negligent or willful acts or omissions of the State of Arizona, be indemnified by Lessee from and against any and all claims. It is agreed that Lessee will be responsible for primary loss investigation, defense and judgment costs where this indemnification is applicable. This indemnity shall not apply if the Lessee or sublessee(s) is/are an agency, board, commission or university of the State of Arizona.
- 19.3 **A. Minimum Scope and Limits of Insurance.** Lessee shall procure and maintain until such time as all obligations under the terms of this Lease are met, insurance against claims for injury to persons or

damage to property which may arise from or in connection with the Lease.

The insurance requirements herein are minimum requirements for this Lease and in no way limit the indemnity covenants contained in this Lease. The State of Arizona in no way warrants that the minimum limits contained herein is sufficient to protect the Lessee from liabilities that might arise out of the performance of this Lease. Lessee is free to purchase additional insurance.

Lessee shall provide coverage with limits of liability not less than those stated below.

1. Commercial General Liability (CGL) – Occurrence Form

Policy shall include bodily injury, property damage, personal and advertising injury, Explosion, Collapse, and Underground (XCU), and products and completed operations.

• General Aggregate	\$2,000,000
• Products – Completed Operations Aggregate	\$1,000,000
• Personal and Advertising Injury	\$1,000,000
• Damage to Rented Premises	\$ 50,000
• Each Occurrence	\$1,000,000

a. The policy shall be endorsed, as required by this Lease, to include the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the use and/or occupancy of the Leased land.

b. Policy shall contain a waiver of subrogation endorsement as required by this Lease in favor of the State of Arizona, and its departments, agencies, boards, commissions, universities, and its officers, officials, agents, and employees for losses arising out of the use and/or occupancy of the Leased Land.

2. Excess/Umbrella Liability in the minimum amount of \$5,000,000 to follow form the primary CGL policy.

3. **Business Automobile Liability.** To cover all owned, hired and/or non-owned of Lessee in the minimum amount of \$1,000,000.

NOTE LIMIT:

If hazardous materials are to be transported **\$5,000,000**

*If the Lease includes hazardous materials transportation, the automobile liability policy shall include the following endorsements:

- CA 99-48 Pollution Liability – broadened coverage for covered autos
- MCS-90 (Motor Carrier Act) – endorsements

a. The policy shall provide **Automobile Pollution Liability** specific to the transportation of hazardous materials.

The policy shall be endorsed as required by this Lease, to include the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Lessee, involving automobiles owned, leased, hired or borrowed by the Lessee.

Policy shall contain a waiver of subrogation endorsement as required by this Lease in favor of the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Lessee.

4. Worker's Compensation and Employers' Liability

- Workers' Compensation Statutory
 - Employers' Liability
 - Each Accident \$1,000,000
 - Disease – Each Employee \$1,000,000
 - Disease – Policy Limit \$1,000,000
- a. Policy shall contain a waiver of subrogation endorsement as required by this Lease in favor of the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Lessee.
- b. This requirement shall not apply to: Separately, EACH contractor or subcontractor exempt under A.R.S. § 23-901, AND when such contractor or subcontractor executes the appropriate waiver (Sole Proprietor/Independent Contractor) form.

5. Contractor's (Lessee's) Pollution Liability

For losses caused by pollution conditions that arise from the operations of the Lessee as described in this lease, Lessee shall also require its contractor(s) to provide coverage for activities performed by or on behalf of the Lessee.

Each Occurrence	\$10,000,000
General Aggregate	\$10,000,000

- a. Coverage must be *identified as specific to the operations* as described in the Lease.
- b. Must include coverage pollution losses arising out of completed operations.
- c. The policy should be written on an "occurrence" basis with no sunset clause.
- d. Pollution coverage must apply to all phases of the work described in the Lease.
- e. The policy shall include coverage for bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death and medical monitoring costs.
- f. The policy shall include coverage for property damage including physical damage to or destruction of tangible property and the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically damaged or destroyed including diminution in value.
- g. The policy shall include coverage for Environmental damage including physical damage to soil, surface water or ground water, or plant or animal life, caused by Pollution Conditions and giving rise to Cleanup Costs.
- h. The policy shall include defense including costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages.
- i. The policy shall include coverage for asbestos and lead, mold, and no exclusions.
- j. The policy shall include Non-Owned Disposal Site coverage.
- k. The policy shall be endorsed as required by this Lease to include the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Lessee.
- l. Policy shall contain a waiver of subrogation endorsement as required by this Lease in favor of the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Lessee.

- m. Should any of the work involve treatment, storage or disposal of hazardous wastes, the Lessee shall furnish an insurance certificate from the disposal facility establishing that the facility operator maintains current Pollution Legal Liability Insurance in the amount of not less than \$10,000,000 per occurrence / \$10,000,000 annual aggregate and will cover sudden and gradual pollution losses arising from the facility, associated with work performed under this Lease.

Minimum Scope of Coverage: For pollution losses arising from the Lessee's operation, coverage shall apply to sudden and gradual pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, which results in Bodily Injury or Property Damage. The policy should include the following coverages:

- i. Bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death and medical monitoring costs
- ii. Property damage, including physical injury to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically injured or destroyed and diminution in value.

6. Pollution Legal Liability

Lessee shall provide coverage and cause its contractor(s) to provide coverage as required for the acceptance, storage or disposal of any hazardous materials, with limits of at least:

Each Occurrence	\$10,000,000
Annual Aggregate	\$10,000,000

- a. Coverage must be *identified as specific to the operations and specific site(s)* described in the Lease.
- b. Pollution coverage must apply to all locations utilized for the acceptance, storage or disposal of any hazardous materials
- c. The policy shall include bodily injury, sickness, disease, mental anguish or shock sustained by any person, including death and medical monitoring costs.
- d. The policy shall include property damage including physical damage to or destruction of tangible property including the resulting loss of use thereof, clean-up costs, and the loss of use of tangible property that has not been physically damaged or destroyed.
- e. For losses that arise from the disposal facility that is accepting hazardous material, coverage shall apply to sudden and non-sudden pollution conditions including the discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere or any watercourse or body of water, which results in cleanup costs, bodily injury or property damage.
- f. The policy shall include defense, including costs, charges and expenses incurred in the investigation, adjustment or defense of claims for such compensatory damages.
- g. The policy shall be endorsed as required by this Lease, to include the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees as additional insureds with respect to liability arising out of the activities performed by or on behalf of the Lessee.
- h. Policy shall contain a waiver of subrogation endorsement as required by this Lease in

favor of the State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees for losses arising from work performed by or on behalf of the Lessee.

B. Additional Insurance Requirements. The policies shall include, or be endorsed to include, these provisions:

1. The State of Arizona, and its departments, agencies, boards, commissions, universities, officers, officials, agents, and employees wherever additional insured status is required. Such additional insured shall be covered to the full limits of liability purchased by Lessee, even if those limits of liability are in excess of those required by this Lease
2. Lessee's insurance coverage shall be primary insurance with respect to all other available sources.
3. Coverage provided by Lessee shall not be limited to the liability assumed under the indemnification provisions of this Lease.
4. If Lessee's Contractors and/or Subcontractors do not have or cannot obtain such coverage, Lessee's certificate(s) may include all its Contractors/Subcontractors as insureds under its policies or Lessee shall be responsible for ensuring and/or verifying that all Contractors/Subcontractors have collectable insurance as evidenced by the certificates of insurance and endorsements for each Contractor/Subcontractor. All coverages for Contractors/Subcontractors shall be subject to the applicable insurance requirements identified above. The Department reserves the right to require, at any time, proof from the Lessee that its Contractors/Subcontractors have the required coverage.

C. Notice of Cancellation: Each insurance policy required by the insurance provisions of this Lease shall not be suspended, voided, cancelled, reduced in coverage or in limits except after thirty (30) days' prior written notice has been given to the State of Arizona. Such notice shall be sent directly to:

Minerals Section
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

and shall be sent by certified mail, return receipt requested.

D. Acceptability of Insurers. Lessee's insurance shall be placed with companies licensed in the State of Arizona or hold an approved non-admitted status on the Arizona Department of Insurance List of Qualified Unauthorized Insurers. Insurers shall have an "A.M. Best" rating of not less than A- VII. The State of Arizona in no way warrants that the above-required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

E. Verification of Coverage. Lessee shall furnish Lessor with certificates of insurance (ACORD form or equivalent approved by the State of Arizona) as required by this Lease. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements are to be received and approved by Lessor before the Lease Term commences. Each insurance policy required by this Lease must be in effect at or prior to the commencement of this Lease and must remain in effect for the duration of this Lease. Failure to maintain the insurance policies as required by this Lease or to provide timely evidence of renewal will be considered a material breach of this Lease. All certificates required by this Lease shall be sent directly to the Department. The Department's Lease number (11-26500) and location description of the Leased Land are to be noted on the certificate of insurance. Lessor reserves the right to require complete, certified copies of all insurance policies and endorsements required by this Lease at any time.

- F. **Modifications:** Any modification or variation from the insurance requirements in this Lease shall be made by the Lessor in consultation with the Arizona Department of Administration, Risk Management Division. Such action will not require a formal Lease amendment, but may be made by administrative action.
- G. **Approval:** The Lessor reserves the right to review, or make modifications to the insurance limits, required coverages or endorsements throughout the life of this Lease as deemed necessary. In such event, the Lessor shall provide the Lessee with written notice of such and the Lessee shall comply within thirty (30) days of receipt thereof.

Article 20

ENVIRONMENTAL MATTERS

- 20.1 **Definition of Regulated Substances and Environmental Laws.** For purposes of this Lease, the term "Environmental Laws" shall include but not be limited to any relevant federal, state or local environmental laws, and the regulations, rules and ordinances relating to environmental matters, and publications promulgated pursuant to the federal, state and local laws and any rules or regulations relating to environmental matters applicable to Lessee's operations on the Leased Land. For the purpose of this Lease, the term "Regulated Substances" shall include but not be limited to substances defined as "regulated substance," "solid waste," "hazardous waste," "hazardous materials," "hazardous substances," "toxic materials," "toxic substances," "inert materials," "pollutants," "toxic pollutants," "herbicides," "fungicides," "rodenticides," "insecticides," "contaminates," "pesticides," "asbestos," "environmental nuisance," "criminal littering," or "petroleum products" as defined in Environmental Laws.
- 20.2 **Compliance with Environmental Laws.** Lessee shall strictly comply with all applicable Environmental Laws, including, without limitation, water quality, air quality, and handling, transportation, storage, treatment, or disposal of any Regulated Substance on, under, or from the Leased Land. Without limiting the foregoing, compliance includes that Lessee shall: (i) comply with all reporting obligations imposed under Environmental Laws; (ii) obtain and maintain all permits required by Environmental Laws and provide copies to Lessor within ten business days of receipt of the permits; (iii) provide copies of all documentation relating to the Leased Land as required by Environmental Laws to Lessor within ten business days of Lessee's submittal and/or receipt of the documentation; (iv) during the Term of this Lease, provide copies of all information it receives or obtains regarding any and all environmental matters relating to the Leased Land, including but not limited to environmental audits relating to the Leased Land regardless of the reason for which the information was obtained or whether or not the information was required by Environmental Laws; and (v) prevent treatment, storage, disposal, handling or use of any Regulated Substances within the Leased Land without prior written authorization from Lessor. The permitted use of Regulated Substances in the performance of lease activities shall not exempt future obligation of Lessee to remediate any environmental condition that may result from such use. Lessor retains full right to require future remediation or restoration.
- 20.3 **Designated Compliance Officer.** Lessee at all times shall employ or designate an existing employee, consultant or representative (the "Designated Compliance Officer") who is responsible for knowing all Environmental Laws affecting Lessee and Lessee's business and monitoring Lessee's continued compliance with applicable Environmental Laws. Upon request by Lessor, Lessee shall make the Designated Compliance Officer available to discuss Lessee's compliance, answer any questions, and provide such reports and confirming information as Lessor may reasonably request.
- 20.4 **Environmental Audit.** At any time, Lessor may request Lessee to provide an environmental audit of the Leased Land performed by an Arizona registered professional engineer or an Arizona registered geologist. Lessee shall pay the entire cost of the audit.

- 20.5 **Environmental Assessment.** At any time during the Term of this Lease, with reasonable cause, Lessor may require Lessee to obtain a Phase I environmental assessment of the Leased Land, performed in accordance with most current ASTM standard by an Arizona registered professional engineer or an Arizona registered geologist. If, based upon the Phase I environmental assessment or its own independent investigation, Lessor identifies any possible violation of Environmental Laws or the terms of this Lease, Lessor may require Lessee to conduct additional environmental assessments as Lessor deems appropriate for the purpose of ensuring that the Leased Land are in compliance with Environmental Laws. The Phase I assessment, or any other assessment required by Lessor, shall be obtained for the benefit of both Lessee and Lessor. A copy of the Phase I report shall be provided both to Lessee and Lessor. Lessor, in its sole discretion, shall have the right to require Lessee to perform additional assessments of any damage to the Leased Land arising out of any violations of Environmental Laws. If Lessee fails to obtain any assessment required by Lessor, Lessee shall pay the entire costs of any and all assessments required by Lessor, notwithstanding the expiration or termination of this Lease.
- 20.6 **Indemnity for Environmental Damage.** Lessee shall defend, indemnify and hold Lessor harmless from and against any and all liability, obligations, losses, damages, penalties, claims, environmental response and cleanup costs and fines, and actions, suits, costs, taxes, charges, expenses and disbursements, including legal fees and expenses of whatever kind or nature (collectively, "claims" or "damages") imposed on, incurred by, or reserved against Lessor in any way relating to or arising out of any non-compliance by Lessee, Lessee's successors or sublessees, with any Environmental Laws, the existence or presence from and after the Commencement Date of this Lease of any Regulated Substance, on, under, or from the Leased Land, and any claims or damages in any way relating to or arising out of the removal, treatment, storage, disposition, mitigation, cleanup or remedying of any Regulated Substance on, under, or from the Leased Land by Lessee, its agents, contractors, or subcontractors.
- 20.7 **Scope of Indemnity.** This indemnity shall include, without limitation, claims or damages arising out of any and all violations of Environmental Laws regardless of any real or alleged fault, negligence, willful misconduct, gross negligence, breach of warranty, or strict liability on the part of any of the indemnities. This indemnity shall survive the expiration or termination of this Lease and/or transfer of all or any portion of the Leased Land and shall be governed by the laws of the State.
- 20.8 **Lessee's Participation in the Defense.** In the event any action or claim is brought or asserted against Lessor which is or may be covered by this indemnity, Lessee shall fully cooperate and pay for the defense of the action or claim including but not limited to the following: (i) the conduct of any required cleanup, removal or remedial actions and/or negotiations, (ii) the conduct of any proceedings, hearings, and/or litigation, and (iii) the negotiation and finalization of any agreement or settlement. Lessor shall retain the right to make all final decisions concerning the defense.
- 20.9 **Restoration.** Prior to the termination of this Lease and in addition to those obligations set forth in this Lease, Lessee shall restore the Leased Land by removing or remediating any and all Regulated Substances to the satisfaction of the Lessor. In addition, the restoration shall include, but not be limited to, removal of all waste and debris deposited by Lessee. If the Leased Land or any portions thereof are damaged or destroyed from the existence or presence of any Regulated Substance or if the Leased Land or any portions thereof are damaged or destroyed in any way relating to or arising out of the removal, treatment, storage, disposition, mitigation, cleanup or remedying of any Regulated Substance, Lessee shall arrange, at its expense, for the repair, removal, remediation, restoration, and reconstruction to the Leased Land, and groundwater in accordance with the approved mine reclamation and closure plans under Article 22. In any event, any damage, destruction, or restoration by Lessee shall not relieve Lessee from its obligations and liabilities under this Lease. The insurance provisions within this Lease shall remain in place until such time as the required restoration is complete and approved by the regulatory authority and the Lessor.

Article 21

MINE OPERATING PLAN

- 21.1 **Approved Mine Operating Plan.** All development or mining operations, or any use of the Leased land shall be performed in a manner consistent with an approved Mine Operating Plan, submitted as part of Lessee's Mineral Development Report entitled "Mineral Extraction Operating Plan – Reclamation and Closure Plan" as revised March 13, 2014. The Approved Mine Operating Plan shall comply with Lessee's final, approved Temporary Individual Aquifer Protection Permit (No. P-106360), which Lessee must obtain from the Arizona Department of Environmental Quality ("ADEQ"). The Mine Operating Plan is to conform to the Department's plan requirements, and be submitted to and approved by the Department prior to the commencement of any operation upon the Leased Land.
- 21.2 **Lessee Performance.** Upon approval, Lessee shall perform all operations in a manner and time consistent with the Mine Operating Plan.
- 21.3 **Mine Operating Plan Amendments.** Amendments to the Mine Operating Plan must be filed with and approved by the Department whenever the operation deviates from previously approved plans, including mine expansion. Any amendments to the Mine Operating Plan will require changes to the Approved Reclamation Plan in Article 22.1 and may also require changes to the amount of the Reclamation Bond in Article 22.3. Upon completion of the Production Test Facility, and before Lessee starts the commercial phase of the mining operation, the Mine Operating Plan and Approved Reclamation Plan will require major amending or complete revision.
- 21.4 **Compliance of Agents and Subcontractors.** Lessee shall comply, and assure that its agents, sublessees and subcontractors comply with the applicable transportation laws and ordinances pertaining to operation of trucks on roadways and Lessee shall consult with the Arizona Department of Transportation to address safety issues.
- 21.5 **Overburden Piles.** Overburden piles resultant from mining shall be placed and maintained (with riprap if necessary) to prevent any eroded sediment from entering washes.
- 21.6 **Drainage Report.** Lessee shall prepare and submit to Lessor a drainage report which identifies appropriate steps required to control runoff, minimize erosion, maintain water quality and otherwise prevent any adverse impacts on perennial surface flow. Failure to comply with such requirements shall constitute a default hereunder. Such report is subject to Lessor's approval and Lessor may seek input from ADEQ. At no time will Lessee permit a permanent body of water, not identified in the ADEQ permit, to be maintained on the site; however it is acknowledged that heavy rain falls and/or wet seasons may result in storm water temporarily collecting on the Leased Land.

Article 22

RECLAMATION AND CLOSURE PLANS AND CONDITIONS

- 22.1 **Detailed Reclamation and Closure Plan.** Lessee shall not commence mining activities unless or until Lessor shall have approved in writing the Reclamation and Closure Plan ("Approved Reclamation Plan"), including any amendments thereto, submitted as part of Lessee's Mineral Development Report entitled "Mineral Extraction Operating Plan – Reclamation and Closure Plan" as revised March 13, 2014. The Approved Reclamation Plan shall comply with Lessee's final, approved Temporary Individual Aquifer Protection Permit (No. P-106360), which Lessee must obtain from ADEQ including the Closure and Post-Closure Plans. Reclamation shall include contouring and landscaping the land to match in a natural manner the surrounding native landscape and landforms and shall be performed concurrent with ongoing mining activities to the extent practicable. Reclamation shall include processes and procedures as identified in the Temporary Individual Aquifer Protection Permit, and as approved by the Lessor.

Reclamation shall also include contouring and landscaping all other portions of the State Trust land parcel disturbed by Lessee not specifically identified in or made part of the Approved Reclamation Plan.

- 22.2 **Final Reclamation.** Lessee shall complete final reclamation within one hundred twenty (120) days following the end of the Lease Term. Such final reclamation shall be in accordance with the Approved Reclamation Plan.
- 22.3 **Reclamation Bond.** Upon Lessor's approval of the Approved Reclamation Plan and prior to the commencement of mining activities, Lessee shall provide Lessor with a bond or other form of security to insure the full performance of Lessee's reclamation and closure activities. The form of such bond or security shall be subject to Lessor's written approval. The amount of the bond or security shall be \$63,000.00. This amount is intended to cover reclamation of the approximately 14 acres of surface to be used by the Production Test Facility at a cost of \$4,500.00 per acre. Upon completion of the Production Test Facility, and before Lessee starts the commercial phase of the mining operation, the amount of the bond or security will be reassessed. At Lessee's expense, Lessor may obtain the services of a consultant to help determine the amount and sufficiency of the new bond or security requirement based on the then-prevailing reclamation costs and the progress of Lessee's concurrent reclamation efforts. Lessor shall have the sole discretion to determine the acceptable amount of bond or security if conditions change during the term of this Lease. When Lessor notifies Lessee in writing of the acceptable amount of the bond or security, Lessee shall increase or decrease the bond or security within thirty (30) days thereafter.

Article 23

MISCELLANEOUS

- 23.1 **Lessee Rights.** This Lease grants Lessee only those rights expressly granted herein.
- 23.2 **Lease Governance.** This Lease shall be governed by, construed, and enforced according to State laws.
- 23.3 **Applicable Rules, Regulations, and Laws.** This Lease is subject to all current and subsequently enacted rules, regulations and laws applicable to State land as though fully set forth herein.
- 23.4 **Fee Interest.** No provisions of this Lease shall create any right or interest in Lessee to a fee interest in the Leased Land
- 23.5 **Non-Availability of Funds.** Every obligation of the State under this Lease is conditioned upon the availability of funds appropriated or allocated for the payment of such obligation. If funds are not allocated and available for the continuance of this Lease, this Lease may be terminated by the State at the end of the period where funds are available. No liability shall accrue to the State if this provision is exercised, and the State shall not be obligated or liable for any future payments or any damages as a result of termination under this paragraph.
- 23.6 **Non-discrimination.** Lessee shall comply with Executive Order 99-4, which mandates that all persons, regardless of race, color, religion, sex, age, national origin or political affiliation, shall have equal access to employment opportunities, and all other applicable State and federal employment laws, rules, and regulations, including the Americans with Disabilities Act. Lessee shall take affirmative action to ensure that applicants for employment and employees are not discriminated against due to race, creed, color, religion, sex, national origin or disability.
- 23.7 **Lessor Liability.** Lessor shall be forever wholly absolved from any liability for damages which might result to Lessee in the event this Lease is found to be void, canceled, forfeited or terminated prior to the Expiration Date or in the event this Lease is not renewed.

- 23.8 **Failure to Receive Title.** If, for any reason, it is determined that Lessor has failed to receive title to any of the Leased Land, this Lease is void insofar as it related to the Leased Land to which Lessor has failed to receive title. In such event Lessee waives all right to any compensation as against Lessor, except prorated reimbursement for prepaid rent.
- 23.9 **Reasonable Attorney's Fees.** In any action arising out of this Lease, the prevailing party shall recover reasonable attorneys' fees incurred therein in addition to the amount of any judgment, costs and other expenses as determined by the court. In the case of Lessor, reasonable attorneys' fees shall be calculated at the reasonable market value for such services when rendered by private counsel notwithstanding that it is represented by the Arizona Attorney General's Office or by other salaried counsel.
- 23.10 **Arbitration.** In the event of a dispute between the parties to this Lease, it is agreed to use arbitration to resolve the dispute but only to the extent required by A.R.S. §12-1518; and, in no event shall arbitration be employed to resolve a dispute which is otherwise subject to judicial review pursuant to A.R.S. §12-901, et seq., and administrative review by the Department pursuant to statute or Department Administrative Rule.
- 23.11 **Document Delivery Requirements.** Any notice to be given or other documents to be delivered by one party to the other shall be in writing and served by personal delivery or by depositing same in the United States mail, postage prepaid. Correspondence to the Department shall be addressed as follows:

Minerals Section
Arizona State Land Department
1616 West Adams Street
Phoenix, Arizona 85007

Correspondence to Lessee shall be made to the address of record as indicated following Lessee's signature line(s) herein. Each party is obligated to promptly notify the other party in writing of any change in the foregoing addresses. Notice shall be deemed adequate if sent to the last known address of record.

- 23.12 **Effective Lease Terms.** Any attempt to assign, sublease, convey, and transfer or otherwise dispose of any estate or interest in this Lease, for a time period that exceeds the Lease Term, shall not be effective and shall be cause for cancellation.
- 23.13 **Lessor Supervision.** The Department shall not be responsible for the supervision of any activities conducted under the terms of this Lease.
- 23.14 **Current Lease Agreement.** This Lease, together with all attached Appendices, embodies the whole agreement between the parties. This document supersedes all previous communications, representations and agreements, oral or written, between the parties. There are no other agreements or terms, oral or written.
- 23.15 **Lease Execution.** This document is submitted for examination. This is not an option or offer to lease or grant a permit. This document shall have no binding effect on the parties unless and until executed by Lessor (after execution by Lessee), and a fully executed copy is delivered to Lessee.

Article 24
ASSIGNMENT

- 24.1 **Lease Assignment.** Lessee, if not in default in the payment of any monies owed the State in regard to this Lease and having kept and performed all the conditions of this Lease, may, with the written consent of Lessor, assign this Lease.
- 24.2 **Filing Lease Assignments.** Copies of assignments pertaining to the Leased Land shall be filed with Lessor.

Article 25
RENEWAL

- 25.1 **Lease Renewal.** Upon application to the Department not less than thirty (30) nor more than one hundred and twenty (120) days prior to the Expiration Date, Lessee, if a bona fide resident of the State or legally authorized to transact business in the State, shall have a preferred right to renewal for a term as provided by law, bearing even date with the Expiration Date subject to requirements of A.R.S. § 37-284 and A.R.S. § 27-235 if applicable. The preferred right of renewal shall not extend to Lessee if there has not been substantial compliance with the terms of this Lease or if the Leased Land was not used as prescribed in this Lease, unless for good cause the failure to perform was given written authorization by the Department. If the Department determines the continued leasing of the land to Lessee is not in the best interest of the State, this Lease will not be renewed.

Article 26
HOLDOVER LESSEE

- 26.1 **Surrender of Possession.** Within one hundred twenty (120) days after expiration or termination of this Lease, Lessee agrees to surrender to Lessor peaceful and uninterrupted possession of the Leased Land. Holdover tenancy by Lessee is prohibited and shall be deemed a trespass for which Lessor may seek all appropriate legal remedies; except that Lessee if in good standing and who has filed a timely application for renewal may continue to occupy and use the Leased Land with Department approval, pursuant to the terms of this Lease, pending action on the renewal application by Lessor.

Appendix A
LEGAL DESCRIPTION

STATE OF ARIZONA LAND DEPARTMENT
1616 W. ADAMS
PHOENIX, AZ 85007

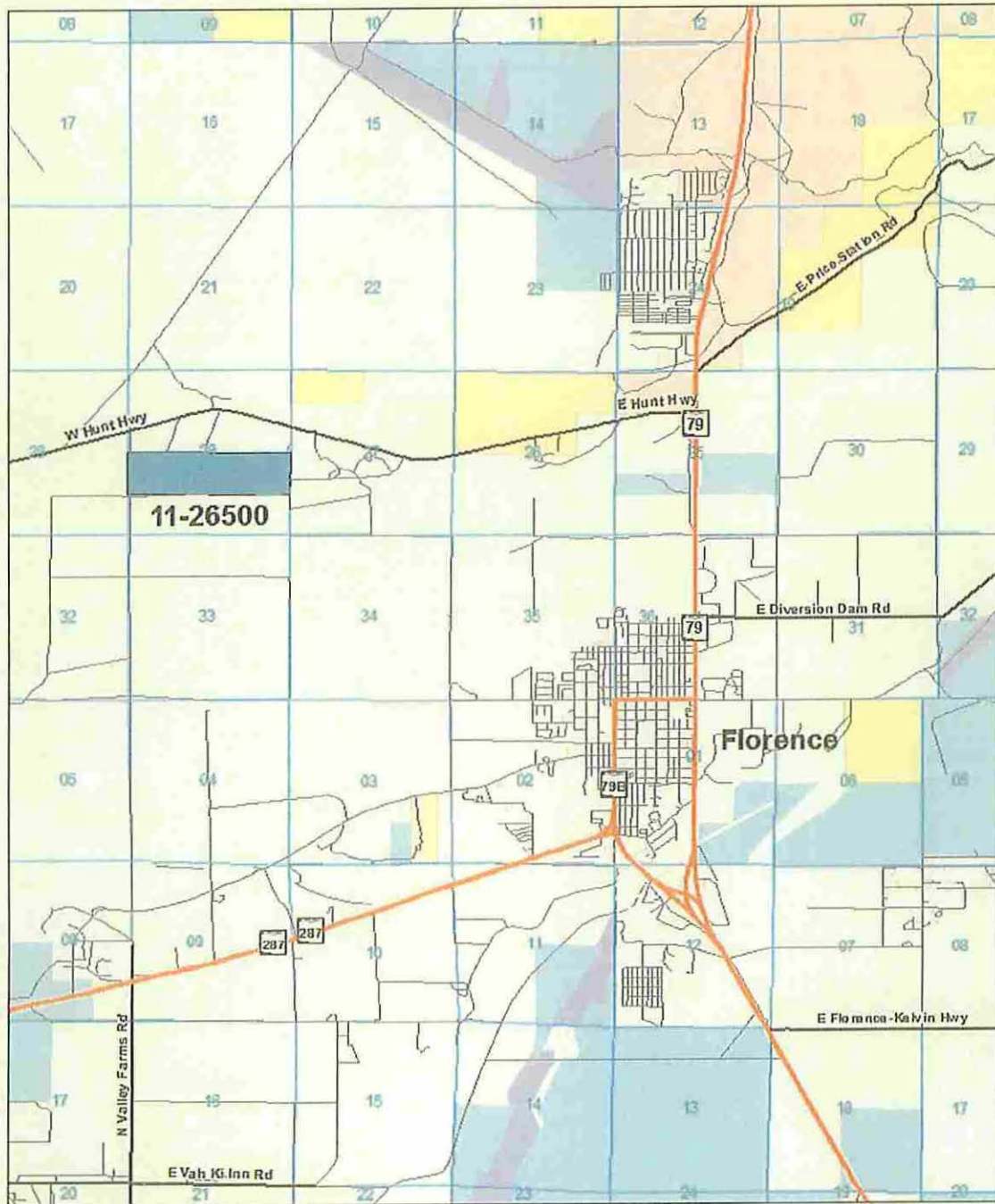
KE-LEASE#: 11-26500-00

APPTYPE: RENEWAL

AMENDMENT#: 0

<u>LAND #</u>	<u>LEGAL DESCRIPTION</u>	<u>ACREAGE</u>
T4S, R9E, S28	N2S2	160.00

Appendix B **GENERAL LOCATION MAP**



**Arizona State
Land Department**
1515 Washington Street • Phoenix, AZ 85007

IN WITNESS WHEREOF, the parties hereto have signed this Lease effective the day and year set forth in Article 2.1

ARIZONA STATE LAND DEPARTMENT
State Land Commissioner

By:

Janissa P. Hickman



FLORENCE COPPER INC.

Lessee

Rita Nappier, Executive Vice President
Authorized Representative Title

Signature

December 15, 2014
Date

Address

1575 W. Hart Hwy

City

Florence, Ariz.
State

Zip

85132

APPENDIX 2

Item 30. Fluid Electrical Conductivity Alert Level Applicability

**FLUID ELECTRICAL CONDUCTIVITY ALERT LEVEL APPLICABILITY
PRODUCTION TEST FACILITY
FLORENCE COPPER PROJECT**

Haley & Aldrich, Inc.
Phoenix, Arizona

for Florence Copper Inc.
Florence, Arizona

File No. 132473-005
February 2021



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2. Fluid Electrical Conductivity Monitoring Requirements	2
3. Fluid Electrical Conductivity During Active Mining and Rinsing Phases	3
4. Closing	5

1. Introduction

Florence Copper Inc. (Florence Copper) is preparing to construct the In-Situ Copper Recovery (ISCR) facility authorized by Aquifer Protection Permit (APP) No. P-101704 (Permit), and is currently rinsing the pilot scale ISCR facility named Production Test Facility (PTF). The purpose of this proposal is to clarify that the fluid electrical conductivity (EC) monitoring alert level (AL) currently included in the Permit applies only to active mining phase operations. No other monitoring changes are proposed in this monitoring proposal.

2. Fluid Electrical Conductivity Monitoring Requirements

Section 2.2.4 of the Permit describes the operational requirements for fluid EC as the following:

Fluid electrical conductivity shall be measured at observation and injection wells to confirm hydraulic control as required by Section 4.2, Table 15: IN-SITU BADCT (Best Available Demonstrated Control Technology) MONITORING.

As specified by Section 4.2, Table 15 of the Permit, the fluid EC AL is exceeded when an observation well's fluid EC is equal to or greater than an injection well's fluid EC. In the event of an exceedance of the fluid EC AL, Section 2.6.2.9 of the Permit states the following actions must be taken:

The permittee shall initiate the following actions within 24 hours of becoming aware of an AL exceedance listed in Section 4.2, Table 15: IN-SITU BADCT MONITORING for the exceedance of fluid sample EC. The permittee shall:

1. Immediately verify the fluid sample EC. If the verification sample does not confirm that an exceedance has occurred, no further action is required.
2. Within 24 hours of confirmation of an AL being exceeded, the permittee shall notify the Groundwater Protection Value Stream and immediately investigate the cause of the exceedance.
3. The permittee shall report the results of the investigation within 30 days of confirmation. The Arizona Department of Environmental Quality (ADEQ) may require a reduction of injection rates and an increase of pumping rates, additional investigations, the installation of additional wells, or corrective action in response to the report.

The fluid EC AL and exceedance requirements do not make any distinction between fluid EC monitoring during the active mining phase and the rinsing phase, though fluid EC conditions in injection and observation wells will change after transitioning from the active mining phase to the rinsing phase. As discussed below, Florence Copper proposes to clarify that the fluid EC AL is applicable only during the active mining phase.

3. Fluid Electrical Conductivity During Active Mining and Rinsing Phases

During the active mining phase, acidified raffinate is injected into the oxide zone through the injection wells. The raffinate solution is highly conductive and is readily distinguishable from groundwater using EC measurements.

There is a dramatic difference in EC between the raffinate and groundwater. Monitoring of fluid EC is based on the concept that if the injected raffinate were to migrate beyond the hydraulic influence of the recovery wells, it would be detected at the observation wells located along the perimeter of the wellfield. Hydraulic control is successfully demonstrated by means of fluid EC monitoring when the measurements in the observation wells are below the measurements in the injection wells. Arrival of fluid at the observation wells exhibiting an EC equal to that of the injected raffinate would serve as an indication that the injected fluid has migrated outside of the wellfield, beyond the pumping influence of one or more recovery wells. Florence Copper has conducted fluid EC monitoring at the PTF wellfield throughout the active mining phase in accordance with the provisions outlined in the APP.

On 26 June 2020, Florence Copper ceased the active mining phase at the PTF wellfield and initiated a three-phase rinsing demonstration that includes flushing, pH adjustment, and fixation of residual mineral constituents. During the flushing phase, no acid will be added to the raffinate stream and solution will continue to flow through the Solvent Extraction / Electrowinning (SX/EW) plant reducing both the free acid and sulfate load in the formation, while facilitating the continued removal of dissolved constituents.

Discontinuing acid addition to the raffinate has resulted in a rapid decrease in the fluid EC of the injection fluid. A further reduction of the fluid EC of the injected fluid is expected with the injection of fresh water. A lag will occur in the subsequent decline in fluid EC at the observation wells due to the hydraulic conductivity of the formation and mineral scaling present in the observation wells. This effect will be further accentuated with the injection of fresh water in the wellfield to advance the rinsing process. The Permit has been amended to incorporate the PTF facilities into APP No. P-101704. The commercial scale ISCR facility will experience a similar condition when the ISCR wells begin rinsing in the future.

Because part of the rinsing process includes injection of fresh water, it is evident that the fluid EC of the “injectate” will be equal to, or lower than, water in the observation wells. A greater fluid EC measurement in an observation well than in an injection well would trigger an exceedance of the fluid EC AL as defined in Section 4.2 Table 15 of the Permit. Should the fluid EC AL be exceeded, Section 2.6.2.9 of the Permit requires immediate verification sampling, notification to the ADEQ Groundwater Protection Value Stream, immediate investigation of the cause of the exceedance, and reporting the results of the investigation within 30 days of exceedance confirmation. Based on the current fluid EC AL language, there is also a significant potential for false positive reporting during the formation rinsing phase resulting from the injection of fresh water. The ADEQ may subsequently require a reduction of injection rates and an increase of pumping rates, additional investigations, the installation of additional wells, or corrective action in response to the report. These actions would slow the rinsing process.

The purpose of the fluid EC monitoring set forth in the Permit is to detect if raffinate injected at the ISCR wellfield migrated to the observation wells at the edge of the wellfield which is used to evaluate hydraulic control. Comparison of fluid EC measurements in injection and observation wells is not an effective means of monitoring hydraulic control during formation rinsing and injection of fresh water. Monitoring fluid EC during the rinsing phase would unintentionally reduce or slow down the formation rinsing process.

To address this problem, in this application, Florence Copper proposes the addition of a footnote to Table 15 that states the fluid EC AL applies only to measurements collected during active mining operations. The footnote may include language similar to the following example text:

The Fluid Electrical Conductivity Alert Level does not apply during formation flushing, rinsing, or injection of fresh water or treated water and neutralization activities.

4. Closing

Florence Copper has conducted operational fluid EC monitoring at the PTF wellfield in accordance with the provisions outlined in Temporary APP No. P-106360 and APP No. P-101704 to evaluate hydraulic control at the PTF and is committed to doing so for the commercial ISCR facility. However, comparison of fluid EC measurements in injection and observation wells during rinsing is not an effective means of evaluating hydraulic control and produces a significant potential for false positive reporting of this monitoring element during the rinsing phase. Therefore, Florence Copper proposes the addition of a footnote to Table 15 that states the fluid EC AL applies only to measurements collected during active leaching operations.

Please contact Mark Nicholls at 602-819-0913 with any questions you may have regarding the content of this document.